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made near Whaley and Congleton in Cheshire, and Chapel-en-le-frith in Derbyshire, and also of other observations made for the Corporation of Liverpool at Rivington and in the valley of Roddlesworth near Preston in Lancashire, which have been communicated to him. The whole of these observations, carefully analysed and compared, have led the author to a conclusion opposite to that arrived at by Mr. Miller.

The author then proceeds to show that the details of Mr. Miller's own observations are in accordance with his, and that they fully bear out his views, and not those of that gentleman. Some apparent discrepancies in the results are pointed out and their cause explained by reference to peculiarities in the localities in which the observations were made, as shown by reference to a map accompanying this paper, and to the details given by Mr. Miller; so that the observations of this gentleman, when examined with reference to locality, fully confirm those of the author and of the authorities he has quoted, and establish the proposition, that as a general law, the quantity of rain deposited in the valleys and at the bottoms of hills is greater than in more elevated situations in the same locality.

“Microscopical examination of the contents of the Hepatic Ducts.”

By Thomas Wharton Jones, Esq., F.R.S.

On a microscopical examination of the matter contained in the larger hepatic ducts, the author has observed what he considers the debris of broken-up hepatic cells, in the form of free nuclei, a granulous substance, oil-globules and fragments of cell-walls; while in the matter contained in the smaller branches of the duct, entire cells of hepatic parenchyma may, in addition, be seen. These facts the author adduces as proofs that the cells of hepatic parenchyma are analogous to the endogenous cells, or true secretory corpuscles of the pancreas and other glands; and he infers that as the endogenous cells of other glands are constantly being reproduced, successively cast off, received into the radicles of the ducts (into which the containing vesicles or tubules of the former open), broken up and resolved into the secreted matter, so the cells of hepatic parenchyma are received into the radicles of the hepatic duct as they are successively cast off, and are there broken up and resolved into bile. This conclusion, namely, that the hepatic cells are analogous to the endogenous cells of other glands, as was first suggested by Professor Henle of Heidelberg, and not to glandular vesicles as has been assumed by some, the author considers as throwing light on the anatomical relation of the hepatic cells to the radicles of the hepatic ducts.

“Researches on the Function of the Intercostal Muscles, and on the Respiratory Movements, with some remarks upon Muscular Power in Man.” By Dr. John Hutchinson. Communicated by Sir Benjamin C. Brodie, Bart., F.R.S.

This paper is an abridgement of a former one, bearing the same title, by the same author, which was read to the Society on the 17th

of June, 1847, and of which a full abstract is contained in the fourth volume of the 'Proceedings,' p. 691. The long historical memoir, and quotations from former authors, have now been omitted.

"Attempt to apply instrumental measurement to the Zodiacal Light." By Prof. C. Piazzi Smyth.

After describing the manner in which the zodiacal light was first strongly represented to him in South Africa in 1843, and which seemed to imply that some of the received opinions with regard to it were erroneous, the author describes an equatorial instrument which he contrived for the purpose of measuring the right ascension and declination of the apex of the light; some instrumental method of determining these data, and thence the principal phenomena of the appearances, being evidently desirable on account of the immense extent to which the judgement may be biassed by prejudice or casual circumstances, when the mere senses are trusted to for determining the extent, situation and character of so faint and vague a body.

The most favourable astronomical, atmospheric and personal conditions requisite to obtain undeniable observations of the zodiacal light are pointed out; and aided partly by strict attention to these, and partly by the clear atmosphere of the high mountains on which he was then residing, the author found the phenomenon to be of a far more stable and determinate character than has generally been represented; and his observations, made by the above instrument in the years 1844-45, of which a list is given, seem to be affected with a probable error not greater than 2° .

Since his return from the Cape, the author's geographical position has wholly prevented him from continuing his observations: he therefore now publishes his experiences to induce others in more favourable situations to follow up the subject; which by comparing his results with those of other observers in the northern hemisphere, he shows has many of its principal features in a state of ambiguity, that ought not in the present day to be allowed to exist any longer; and further, to enable others to take up the subject as nearly as possible as he left it off, the author adds to his paper a series of views of the different appearances of the zodiacal light at various seasons of the year, and explains the peculiar projections employed to give a true as well as a pictorial representation of the sky.

The ordinary Meetings of the Society were then adjourned to Thursday, November 16.

June 9, 1848.

The General Meeting for the election of Fellows was held this day, The MARQUIS OF NORTHAMPTON, President, in the Chair. The President addressed the Society as follows:—